APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/960,064	09/21/2001	Gregory Robert Roelofs	US 018156	4365

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EXAMINER
BRIER, JEFFERY A

ART UNIT	PAPER NUMBER
2672	

DATE MAILED: 11/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/960,064	ROELOFS, GREGORY ROBERT
	Examiner	Art Unit	
	Jeffery A. Brier	2672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>20 September 2005</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7,9-16 and 18* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7,9-16 and 18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

U.S. Patent and Trademark Office

PTOL-326 (Rev. 7-05)   Office Action Summary   Part of Paper No./Mail Date 20051117

Detailed Action

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114 was filed in this

application after a decision by the Board of Patent Appeals and Interferences, but

before the filing of a Notice of Appeal to the Court of Appeals for the Federal Circuit or

the commencement of a civil action. Since this application is eligible for continued

examination under 37 CFR 1.114 and the fee set forth in 37 CFR 1.17(e) has been

timely paid, the appeal has been withdrawn pursuant to 37 CFR 1.114 and prosecution

in this application has been reopened pursuant to 37 CFR 1.114. Applicant's

submission filed on 9/20/2005 has been entered.

Response to Amendment

2.   The amendment filed on 9/20/2005 has been entered.

Response to Argument

3.   Applicant has amended the claims with limitations from claims 8 and 17. The

Brassell reference does not apply to the claims as amended.

Claim Rejections - 35 USC § 112

4.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

5.   Claims 1-7, 9-16, and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 10:

Page 6 lines 19-24 describes the spring model, page 7 lines 1-5 describe the gravity well model, and page 7 line 12 to page 8 line 8 describe the force-density model as separate models that are not used together, however, the claims claim these models are used together and claim to use the group multiple times for one glyph and one pixel due to "at least one of". Note the following court cases which describe how to read the claim limitation of at least one of A and B and at least one of A or B. The specification does not describe how they are to be used together and one of ordinary skill in the art would undergo undue burden in trying to make them work together and the specification does not describe how to use the group of models multiple times for one glyph. Therefore, the claims do not distinctly claim the described invention.

Page 6 lines 19-24 states:

FIG. 4 illustrates an example model of a matrix 410 of pixels 411 in accordance with this
20   invention. In this model, each pixel 411 is modeled as comprising a set of springs 421-424.
Using this model, the center 420 of the four springs is moved toward the center of mass of the
portion of the glyph that partially covers the pixel. The movement of the center 420 of the
springs effects an equal and opposite force on the glyph. In a preferred embodiment, the
magnitude of the force is dependent upon the amount of the glyph that is covering the pixel.
25   For ease of understanding, FIG. 5 illustrates a one-dimensional spring model of a pixel

Page 7 lines 1-5 states:

> An alternative interpretation of the force model is one in which the glyph corresponds to a continuous mass, and each pixel corresponds to a gravity well. If part of the glyph enters the gravity well, there will be a gravitational force exerted on the glyph to pull it entirely into the well. In such a model, an inverse square law is used to model the degree of force that is applied to the glyph, a maximum force being applied when the glyph is half way into the gravity well.

Page 7 line 12 to page 8 line 8 states:

> In the general case, the pixel model defines a force "density" that is applied to the glyph. In the example of a force that tends to pull the center of mass of the glyph to the center of the pixel, a unit-width pixel exerts a force on the glyph in a horizontal direction corresponding to:
>
> $$F_x = \int_{-0.5}^{0.0} f(x)dx + \int_{0.0}^{+0.5} -f(x)dx, \qquad (1)$$
>
> where f(x) is the force density in the horizontal direction, x. In this equation, it is assumed that the force density f(x) that pulls the glyph toward the center from the left side (-0.5 to 0) is equal and opposite to the force density f(x) that pulls the glyph toward the center from the right side (0 to 0.5). This force density f(x) may vary with the distance from the center of the pixel, to provide a non-linear representation of the relative distortion caused by a partial coverage of a pixel. In a preferred embodiment, for simplicity, the force density is modeled as a step function, to form a linear force model, wherein:
>
> $f(x) = 0$, if the glyph does not cover the pixel at x, and
>
> $f(x) = k$, if the glyph covers the pixel at x;
>
> where k is a constant that facilitates normalization. Hereinafter, it is assumed that k=1, for ease of understanding. As can be seen, a totally covered pixel asserts zero force on the pixel, because the force density is equal but opposite on either side of the pixel. Conversely, a half covered pixel will provide a force of 0.5, toward the right (positive) if the pixel is covered on the left (-0.5 to 0), or toward the left (negative) if the pixel is covered on the right (0 to 0.5). A pixel that is 10% covered on the left exerts a force of 0.1 to the right, and a pixel that is 90% covered on

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> the left also exerts a force of 0.1 to the right (0.5 - .04). As noted above, alternative force models
> may be employed, such as one that pushes the glyph away when the pixel is only slightly
> covered, and pulls the glyph to increase the coverage when the pixel is mostly covered. The
> advantage to the preferred "increase coverage" model is the continuity of the model across the
> 5   pixel surface, whereas a push-pull model will exhibit a substantial discontinuity at the center
> point, which could introduce instabilities in the below described force minimization algorithm.
> Techniques are common in the art to deal with such instabilities, but add to the complexity of the
> algorithm.

Clearly the specification describes using one of the listed force models to control the

glyph positioner and claims directed to using more than one of the listed force models

does not distinctly point out that which applicant regards the invention. The claims need

to be amended to claim by using appropriate claim language only one of the force

models will be used by the glyph positioner to perform the modeling. Furthermore the

specification does not describe mixing the force models for character, word, line, or

document. Applicants specification at page 9 line 11 to page 10 line 5 describes only

applying spring force model between glyphs, thus, force model used to apply forces to

character, words, lines or documents are from the same type of force modeler.

Therefore applicant needs to ensure the amended claims do not mix the force models

for character, word, line, or document. Please note the following court cases.

Superguide Corp. v. DirecTV Enterprises, Inc., 358 F.3d 870, 69 USPQ2d 1865, 1878

(Fed. Cir. 2004). Page 1878 states:

We agree with DirecTV. The phrase "at least one of" precedes a series of categories of
criteria, and the patentee used the term "and" to separate the categories of criteria,
which connotes a conjunctive list. A common treatise on grammar teaches that "an

article of a preposition applying to all the members of the series must either be used only before the first term or else be repeated before each term." Willaim Strunk, Jr. & E. B. White, *The Elements of Style* 27 (4th ed. 2000). Thus, "[i]n spring, summer, or winter" means "in spring, in summer, or in winter." *Id.* Applying this grammatical principle here, the phrase "at least one of" modifies each member of the list, i.e., each category in the list. Therefore, the district court correctly interpreted this phrase as requiring that the user select at least one value for each category; that is, at least one of a desired program start time, a desired program end time, a desired program service, and a desired program type.

IPXL Holdings LLC v. Amazon.com Inc., 72 USPQ2d 1469, 1480 (DC EVa 2004) makes

a decision similar to SuperGuide. Page 1480 states:

The parties dispute whether "user defined transaction information" requires both a "user defined transaction" *and* a "user defined transaction parameter" as Amazon contends, or only one of either a "user defined transaction" *or* a "user defined transaction parameter," as IPXL contends. For the reasons set forth below, the Court finds that IPXL misreads both the plain words used in the claim as well as Federal Circuit precedent in arguing for its interpretation. In construing the very same language, the Federal Circuit construed "at least one of" to mean what Amazon has argued.
The phrase "at least one of" precedes a series of categories of criteria, and the patentee used the term "and"to separate the categories of criteria, which connotes a conjunctive list. A common treatise on grammar teaches that "an article of a preposition applying to all the members of the series must either be used only before the first term or else be repeated before each term." William Strunk, Jr. & E.B. White, *The Elements of Style* 27 (4th ed. 2000).... . Applying this grammatical principle here, the phrase "at least one of"modifies each member of the list, i.e., each category in the list. Therefore, the district court correctly interpreted this phrase as requiring that the user select at least one value for each category... .*SuperGuide Corp. v. DirecTV Enterprises, Inc.*, 358 F.3d 870, 886 [69 USPQ2d 1865] (Fed. Cir. 2004).

CAFC decision Brown v. 3M, 265 F.3d 1349, 60 USPQ2d 1375 (Fed. Cir. 2001)

This decision found that the term "or" in claim 16 in the *at least one of two-digit, three-digit, or four-digit year-date representations* phrase is to be read in the alternative when

read in light of the specification.   Page 1378 states:

The district court construed the word "or" in claim 16 as meaning that the apparatus was capable of converting "only two-digit, only three-digit, only four-digit, or any combination

of two-, three-, and four-digit date-data." Slip op. at 9. We agree with this construction of the claim, for it is the plain reading of the claim text. These are not technical terms of art, and do not require elaborate interpretation. There is no basis in the specification or prosecution history for reading "or" as "and" — nor does Dr. Brown request such a reading.

Claims 1 and 10:

The force modeler step and the wherein clause do not mesh together well since the

force modeler step models forces in dependence upon a placement of the glyph and the

wherein clause modifies the force modeler step to model forces based on at least one of

force-density model, spring model, and a gravity well model.   It is not clear if the

placement is still in effect in view of the wherein clause. Please rewrite the force

modeler step to clearly claim one of the three force models, (force-density model, spring

model, and a gravity well model).

Claims 4, 5, 6, 13, 14, and 15:

These claims claim determining the forces that are applied to the glyph based upon an

amount of coverage of a set of pixels of an array of pixels which is described by the

specification for the spring force model, see page 6 lines 20-31, but is not described by

the specification for the force-density model and gravity well model. Thus, with regard

to force-density model and gravity well model this claim incorrectly adds to claim 1 or

claim 10 limitations that do not apply to the claimed force-density model and gravity well

model.

Claims 7 and 16:

Applicants specification at page 9 line 11 to page 10 line 5 describes only applying spring force model between glyphs, thus, force model used to apply forces to character, words, lines or documents are from the same type of force modeler. Therefore applicant needs to ensure the amended claims do not mix the force models for character, word, line, or document. Additionally for this clam applicant needs to ensure this claim is not being applied to the force-density and gravity well force modeler since only the spring model and non-linear force model is discussed by the specification as having inter-glyph spring force or non-linear force in the total force computed by the spring force modeler.

Claims 9 and 18:

The discussion of claims 4 and 13 apply here also.

6.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7.   Claims 1-7, 9-16, and 18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use

the invention. For the reasons given above the specification does not enable one of

ordinary skill in the art to make the invention having all three of the force-density model,

spring model, and gravity well model determine the force applied to the glyph. Equally

the specification does not enable having several of the three force models determining

the force applied to the glyph due to the "at least one of" clause. The specification

enables using one of the three force models (force-density model, spring model, and

gravity well model) to determine the force applied to the glyph and to the glyphs forming

a document's characters.

8.   Any amendments made to the claims need to take into account the following

articles which would teach an unduly broad force model claim, even ones limited to

spring model, gravity model, and force-density model. Currently in view of Superguide

these references cannot be used individually to reject the claims but if the claims were

directed to only one force model then these references will have to be compared to the

claims.

Prior Art

9.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. ·.

Matthew O. Ward and David Keim, Screen Layout Methods for Multidimensional

Visualization, 1997, Euro-American Workshop on Visualization of Information and Data,

1997, pages 1 and 2. This article discusses applying spring model between clusters of glyphs and while encouraging bounding within clusters. See the paragraph spanning pages 1 and 2. If claims 1-7, 9-16, and 18 were amended to be limited to the spring model then this reference would teach the amended claims.

Jason E. Lewis and Alex Weyers, ActiveText: A Method for Creating Dynamic and Interactive Texts, 1999, Proceedings of the 12th annual ACM symposium on User interface software and technology, pgs 131-140. This article teaches with regard to figure 5 using gravity to position glyphs.   If claims 1-7, 9-16, and 18 were amended to be limited to broadly claim gravity model then this reference would teach the amended claims. The reference teaches gravity model but is not clear about gravity well model. However, it would appear from applicants specification that gravity model and gravity well model are the same, see page 7 lines 1-5, since a pixel with gravity is pulling on an object having mass and the object with mass is pulling on the pixel having gravity.
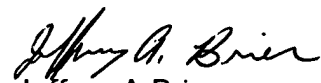
PAK–KEUNG LAI, DIT–YAN YEUNG, and MAN–CHI PONG, A Heuristic Search Approach to Chinese Glyph Generation Using Hierarchical Character Composition, 1997, COMPUTER PROCESSING OF ORIENTAL LANGUAGES VOL.10, NO.3. 1996, pages 307-323. This reference teaches center of gravity and density range models for glyph positioning.   The density range model is relevant to the claimed force-density model

PAK–KEUNG LAI, DIT–YAN YEUNG, and MAN–CHI PONG, Chinese Glyph

Generation by Heuristic Search, June 1996, Technical report HKUST-CS96-17, Hong

Kong University of Science and Technology, pages 1-21.

10.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Jeffery A Brier whose telephone number is (571) 272-

7656. The examiner can normally be reached on M-F from 7:00 to 3:30. If attempts to

reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael

Razavi, can be reached at (571) 272-7664. The fax phone Number for the organization

where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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Business Center (EBC) at 866-217-9197 (toll-free).

Jeffery A Brier
Primary Examiner
Art Unit 2672